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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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CHRISTIE, PARKER & HALE, LLP			KOENIG, ANDREW Y	
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PASADENA, CA 91109-7068			PAPER NUMBER	

2611

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/715,944

Applicant(s)

KATCHER ET AL.

Examiner

Andrew Y. Koenig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17, 18, 20, 21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 18, 20, 21, and 23-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-15, 17, 18, 20, 21, and 23-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9, 15, 21, 23, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,282,713 to Kitsukawa et al. (Kitsukawa) in view of U.S. Patent 6,452,598 to Rafey et al. (Rafey).

Regarding claim 1, Kitsukawa teaches a tuner (fig. 3, label 21), a QPSK demodulator in communication with said tuner (fig. 3, label 22, col. 5, ll. 18-28), wherein the tuner receives a broadcast signal including advertising data (claimed annotation data) (col. 5, ll. 29-46), the advertising data including graphics data for overlaying graphic images on a frame associated with video objects (col. 6, ll. 9-13, col. 8-9, ll. 58-33), a video decoder in communication with said demodulator (fig. 3, label 25), a display device in communication with said demodulator (fig. 2, label 4, col. 5, ll. 29-55), an SRAM memory for storing annotation data (fig. 3, label 36, col. 6, ll. 5-13), a CPU (fig. 3,

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label 29) in communication with said demodulator. Kitsukawa teaches storing a computer program that controls when executed by said central processing unit, a display of said annotation data on said display device (col. 5, ll. 56-65). Kitsukawa teaches the use of SRAM (36), ROM (37), EEPROM (38), and SRAM (51, 52), which equates to the claimed memory. Kitsukawa discusses showing the advertisements with the advertising, but Kitsukawa is silent on determining whether the object is visible in the video and controls display of the associated graphics responsive to a determination that the video object is visible in the video frame. In analogous art, Rafey teaches interfacing 3-D graphics content with broadcast video, wherein the system transmits a mask for the video to implement shaped video effects and the viewer device renders to make the appropriate regions visible to the user (col. 8, ll. 39-50, which equates to determining whether the object is visible in the video and controls display of the associated graphics responsive to a determination that the video object is visible in the video frame. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by determining whether the object is visible in the video and controls display of the associated graphics responsive to a determination that the video object is visible in the video frame as taught by Rafey in order to incorporate interactive graphics into the digital broadcast content to greatly enrich the viewers' experience (Rafey: col. 1, ll. 46-50).

Regarding claim 2, Kitsukawa teaches an integrated receiver/decoder (IRD), which equates to a viewer interaction device (fig. 2 and 3, label 2; col. 5, ll. 1-28),

wherein Kitsukawa teaches the user selecting an advertisement mode, wherein the annotation data is displayed to the viewer (col. 6-7, ll. 65-21), which equates to displaying annotation data on said display device in response to a viewer activating said viewer activating said viewer interaction device (fig. 5-11).

Regarding claim 3, Kitsukawa teaches selection of the advertisements (col. 8, ll. 17-57), but Kitsukawa is silent on the graphics image associated with mask information to identify regions on the display. Rafey teaches the graphics image associated with mask information to identify regions on the display (col. 8, ll. 39-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by the graphics image associated with mask information to identify regions on the display as taught by Rafey in order to permit interactive product behavior in a cost effective manner.

Regarding claim 4, the combination of Kitsukawa and Rafey teach encoding object information with an object timelist (claimed object time stamp) (Rafey: col. 9, ll. 41-45).

Regarding claim 5, the combination of Kitsukawa, Rafey, and Blackketter teaches a time stamp to display mask information in temporal relation to a video frame.

Regarding claim 6, Kitsukawa teaches storing object information to display objects in a video frame on the display (fig. 4, col. 6, ll. 51-60), which equates to annotation data including object information associated with the video object.

Regarding claim 7, the combination of Kitsukawa and Rafey teach encoding object information with an object timelist (claimed object time stamp) (Rafey: col. 9, ll. 41-45).

Regarding claim 9, Kitsukawa teaches using a list of pointers (claimed object mapping table) for the addresses of advertising and coupon information, which equates to an object mapping table, wherein upon accessing the advertising and coupon information by the addresses in the table, the CPU can retrieve the data from the data buffer (51), which equates to an object property table referenced by said first identifiers (list of pointers), and said object property data including a first set of annotation data.

Regarding claim 15, Kitsukawa teaches an IRD (fig. 2, label 2), receive (fig. 3, label 21), decode (fig. 3, label 25), store (fig. 3, labels 36, 37, 38, 51, 52) and manipulate broadcast information by displaying advertisement information, central processor unit (fig. 3, label 29) and at least one memory devices, receiving broadcast information via the tuner; decoding said broadcast information to recover graphics data information for overlaying a graphics image on a video frame, the image associated a video object (fig. 3, label 25, col. 6, ll. 9-13, col. 8-9, ll. 58-33).

Kitsukawa is silent on graphics data in a queue in said at least one memory devices. Official Notice is taken that the use of queues is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by using queues in order to properly process data in order, thereby conserving processing power to locate specific elements.

Kitsukawa discusses showing the advertisements with the advertising, but Kitsukawa is silent on determining whether the object is visible in the video and controls display of the associated graphics responsive to a determination that the video object is visible in the video frame. In analogous art, Rafey teaches interfacing 3-D graphics content with broadcast video, wherein the system transmits a mask for the video to implement shaped video effects and the viewer device renders to make the appropriate regions visible to the user (col. 8, ll. 39-50, which equates to determining whether the object is visible in the video and controls display of the associated graphics responsive to a determination that the video object is visible in the video frame. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by determining whether the object is visible in the video and controls display of the associated graphics responsive to a determination that the video object is visible in the video frame as taught by Rafey in order to incorporate interactive graphics into the digital broadcast content to greatly enrich the viewers' experience (Rafey: col. 1, ll. 46-50).

Regarding claim 21, Kitsukawa teaches receiving advertising and coupon information, which is received from the broadcast transmitter (col. 6, ll. 5-18, col. 5, ll. 18-28), which equates to transmitting information in conjunction with a video signal for display in a temporal relation with the video signal. Kitsukawa teaches encoding object information (col. 6, ll. 5-18) associated with the products and transmitting the objects with the video signal for display in a temporal relation with the video signal. Kitsukawa is silent on the timing mechanism used to display the information and encoding mask information and a visibility indicia, wherein the visibility indicia indicates whether one or more objects in an associated video frame are enabled for being visually identifies and displaying the mask upon determination that the objects are enabled to be visually identified.

In analogous art, Rafey teaches interfacing 3-D graphics content with broadcast video, wherein the system transmits a mask and timing information (via a timelist) for the video to implement shaped video effects and the viewer device renders to make the appropriate regions visible to the user (col. 8, ll. 39-50), which equates to encoding mask information and a visibility indicia, wherein the visibility indicia indicates whether one or more objects in an associated video frame are enabled for being visually identifies and displaying the mask upon determination that the objects are enabled to be visually identified. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by encoding mask a with timing information and a visibility indicia, wherein the visibility indicia indicates whether one or more objects in an associated video frame are enabled for being visually

identifies and displaying the mask upon determination that the objects are enabled to be visually identified as taught by Rafey in order to incorporate interactive graphics into the digital broadcast content to greatly enrich the viewers' experience (Rafey: col. 1, ll. 46-50).

Regarding claim 23, the combination of Kitsukawa and Rafey teaches determination of that the video object is visible in the video frame based on the visibility indicia, wherein the indicia indicates whether the object is visible (Rafey: col. 8, ll. 39-50).

Regarding claim 24, Kitsukawa teaches decoding said broadcast information to recover graphics data information for overlaying a graphics image on a video frame, the image associated a video object (fig. 3, label 25, col. 6, ll. 9-13, col. 8-9, ll. 58-33). Kitsukawa is silent on graphics data in a queue in said at least one memory devices. Official Notice is taken that the use of queues is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by using queues in order to properly process data in order, thereby conserving processing power to locate specific elements.

Regarding claim 26, the combination of Kitsukawa and Rafey teach encoding object information with an object timelist (claimed object time stamp) (Rafey: col. 9, ll. 41-45) and teach transmitting the encoded object information with said video for display

in temporal relation with said video signal (Kitsukawa: col. 6, ll. 5-18, col. 5, ll. 18-28, Rafey: col. 8, ll. 39-50)

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,282,713 to Kitsukawa et al. (Kitsukawa), U.S. Patent 6,452,598 to Rafey et al. (Rafey) in view of U.S. Patent 6,415,438 to Blackketter et al. (Blackketter).

Regarding claim 8, Kitsukawa and Rafey are silent on indicating an expiration time. Blackketter teaches expiring triggers, which are indicative of the last instance the data structure is used (col. 3, ll. 13-22, col. 10, ll. 24-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rafey by indicating an expiration time in order to ignore invalid triggers (Blackketter: col. 10, ll. 24-35).

5. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,282,713 to Kitsukawa et al. (Kitsukawa) and U.S. Patent 6,452,598 to Rafey et al. (Rafey) in view of U.S. Patent 5,889,746 to Moriyama et al.

Regarding claim 10 and 11, Kitsukawa and Rafey are silent on the annotation data field is a title data field and the third data structure element is a string including the title of the object. Moriyama teaches a pointer to a text string wherein the text string can be the title (col. 15-16, ll. 65-31; see also fig. 9). Therefore, it would have been obvious

to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Rafey by pointing to a string including the title as taught by Moriyama in order to efficiently manage variable length fields and manage the memory of the system.

Regarding claim 12, Kitsukawa teaches menus with display identifiers and actions associated with the display identifiers (fig. 5, col.17-57). However, Kitsukawa is silent on an annotation data menu field and the second identifier referencing a selector including a set of display identifiers and corresponding actions. Moriyama teaches identifying elements via pointers, as shown in figure 9. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Rafey by identifying a display identifiers and actions via pointers as taught by Moriyama in order to efficiently manage dynamic resources.

Regarding claim 13, Kitsukawa and Rafey are silent on never duplicating the first and second identifiers. Official Notice is taken that never duplicating identifiers is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Rafey by never duplicating identifiers in order to appropriately reference the appropriate information thereby eliminating access to the incorrect data structure.

Regarding claim 14, Kitsukawa and Rafey are silent on a variable value. Official Notice is taken that a variable values are well known in the art. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Rafey by using variable values in order to efficiently manage the memory by dynamically referencing and allocating the memory.

6. Claims 17, 18, 20, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,282,713 to Kitsukawa et al. (Kitsukawa) and U.S. Patent 6,452,598 to Rafey et al. (Rafey) in view of U.S. Patent 6,317,774 to Jones et al. (Jones).

Regarding claim 17, the combination of Kitsukawa and Rafey teaches mask information, which is decoded along with comparing the time information in order to display the information, but Kitsukawa and Rafey are silent on the assigning threads to perform specific tasks. Jones teaches a thread scheduler for execution of real-time and non-real-time tasks (col. 4, ll. 27-57), wherein the scheduler can be implemented in a set top box (col. 6, ll. 37-41), which teaches assigning by the scheduler different threads for performing tasks. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Rafey to assign threads to perform specific tasks as taught by Jones in order to use a thread to decode information, along with a thread for comparing data for the benefit of increasing the efficiency of the system in addition to effectively schedule non-real-time programs in the complete absence of real-time program, reservations and constraints (Jones: col. 2, ll. 47-50).

Regarding claim 18, Kitsukawa is silent on each mask having a time stamp, comparing the time stamp with a time stamp of a displayed video frame; and displaying said mask based on a relationship between said mask time stamp and said time stamp of said displayed video. Rafey teaches that the masks have a timelist (mask having a time stamp) and a timecode (claimed time stamp of a displayed video frame), wherein when a match occurs, the script nodes triggers behavior changes of objects in the scene. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by comparing the time of display to the actual display and displaying the mask accordingly as taught by Rafey in order to display information at the appropriate time while providing additional services and interactivity to the user.

Regarding claim 20, Kitsukawa is silent on processing a mask time stamp corresponding to a frame not yet displayed. Rafey teaches decoding the mask, which is inherently placed in a buffer in order to process the mask, Rafey teaches determining if the mask should be displayed and displaying the information (col. 9-10, ll. 59-4), however Rafey is silent on sleeping for a time calculated to end at the time the mask is to be display. Official Notice is taken that determining the difference in time to perform an event is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Rafey by determining the difference in time to perform an event in order to efficiently

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manage events thereby reducing the processing of the system by selectively querying the system clock.

Regarding claim 25, Kitsukawa teaches a SRAM containing advertisement and coupon information (col. 6, ll. 5-18), but Kitsukawa and Rafey are silent on the use of threads, consequently, Kitsukawa and Rafey are silent threads capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data. Jones teaches a thread scheduler for execution of real-time and non-real-time tasks (col. 4, ll. 27-57), wherein the scheduler can be implemented in a set top box (col. 6, ll. 37-41), wherein the thread of Jones is inherently capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data, in that a thread is capable of any processing task performed by the processor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Rafey by using threads capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data as taught by Jones in order to process plural tasks simultaneously in a real time environment thereby increasing the efficiency of the system in addition to effectively schedule non-real-time programs in the complete absence of real-time program, reservations and constraints (Jones: col. 2, ll. 47-50).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Y. Koenig whose telephone number is (571) 272-7296. The examiner can normally be reached on M-Th (7:30 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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